

REMARKS

Claims 10 -16 are pending in the Application. Claims 10 and 12 have been amended. Claim 10 has been amended and support can be found in the Specification as filed on page 10, lines 10-13. Claim 12 has been amended to depend from Claim 10. Claim 16 has been added. Support for the amendment is found on page 3, lines 2-8, of the Specification as originally filed. No new matter has been added.

REJECTION UNDER 35 USC 102(b)

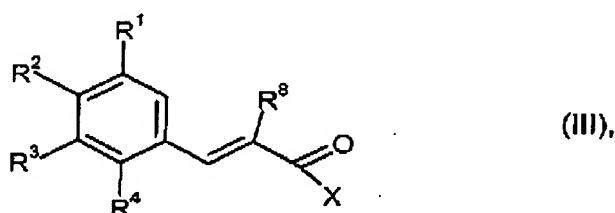
Claim 15 stands rejected under 35 USC 102(b) as anticipated by Novelli et al. The rejection should be withdrawn in view of the modifications above and remarks below.

Claim 15 has been cancelled, thus the rejection is moot.

REJECTION UNDER 35 USC 103

Claims 10-12 stands rejected under 35 USC 103(a) over Saumitra et al in view of Kikukawa et al. The rejection should be withdrawn in view of the modifications above and remarks below.

Claim 10 has been amended and is related to a process for preparing a compound of formula (III)

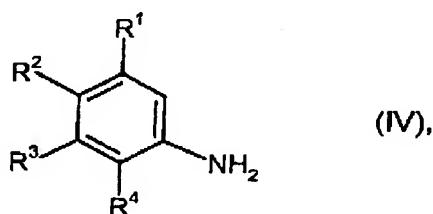


wherein R^1 , R^2 , R^3 and R^4 are identical or different and in each case represent hydrogen, fluorine, chlorine or bromine, at least two of these radicals being other than hydrogen and

X represents OR⁵ or N(R⁶)(R⁷), where R⁵ represents hydrogen or optionally substituted C₁-C₁₀-alkyl, optionally substituted phenyl or benzyl and R⁶ and R⁷ are identical or different and in each case represent optionally substituted C₁-C₁₀-alkyl and

R⁸ represents hydrogen, chlorine, bromine or optionally substituted C₁-C₁₀-alkyl,

the process comprising: reacting (1) an aniline of the formula (VI)



wherein

R¹, R², R³ and R⁴ have the meaning indicated in formula (III)

with sodium nitrite in aqueous sulfuric acid or with methyl, ethyl, butyl or amyl nitrite sulfuric acid-containing methanol into a diazonium salt and reacting (2) the resulting reaction mixture

with a compound of formula (V)



wherein

X has the meaning indicated in formula (III) and

R^8 represents hydrogen, chlorine, bromine or optionally substituted C_1-C_{10} -alkyl,

in the presence of a homogeneous, palladium-containing catalyst at a temperature ranging from about -5 to about +100°C.

The Office Action alleges that:

"Neither Saumitra et al nor Kikukawa et al, either alone or in combination, teach or suggest a method of preparing cinnamate compounds containing more than one halogen substituent. Both Saumitra et al and Kikukawa et al disclose methods of preparing cinnamate compounds containing if at all only one halogen substituent."

However, Saumitra et al discloses a process of preparing cinnamate compounds by reacting arenediazonium salts with ethyl acetate in the presence of Pd(OAc)₂ wherein the arenediazonium salt may be substituted by *only one halogen*. In the latter cases the cinnamate compounds were obtained in yields of e.g. 75 % (see table 1: entry 2). As the Examiner correctly stated in the Office Action "the instant application differs from Saumitra et al in that at least two of the substituents on the phenyl ring are halogen in the starting material" (Office Action, page 4, para 2).

Kikukawa et al describes a method of arylation of olefins by anilines in the presence of a palladium catalysts, but discloses only reaction of starting arylamines with one halogen substituent with styrene in order to give stilbene derivatives (see table II). Arylation of ethyl acrylate is only disclosed with unsubstituted aniline in order to give a cinnamate compound (see table III, 5th Example). Kikukawa et al does not even disclose any reaction forming a cinnamate compound containing one halogen substituent. Consequently, Kikukawa et al neither suggests the process according to the claimed invention alone nor overcomes the deficiencies of Saumitra et al.

Thus, combination of the teachings of Saumitra et al with the teachings of Kikukawa et al does not teach or suggest Applicants' present invention. Nothing in these references suggests to a skilled person in the art, to modify the process according to Saumitra et al by using compounds with two or more halogen

substituents. Additionally, it should be noted that Saumitra et al states on p. 1943 in col. 2 first paragraph that the diazonium nucleofuge shows increased reactivity when a chlorine or a bromine substituent is present. Kikukawa et al discloses states on p. 4887, col. 2 that in the 4-iodoanilin the reactivity of the carbon-diazonium bond is higher than that of the carbon-iodine bond. One skilled in the art knows that higher reactivity of the diazonium nucleofuge or of the carbon-diazonium bond means equally lower stability of the diazonium compound. This lower stability and material loss by decomposition is underlined by the fact that neither Saumitra et al nor Kikukawa et al obtained higher yields by using starting materials with one halogen substituent, although higher reactivity of those starting material was proposed. Consequently, a person skilled in the art would have expected that diazonium salts containing two or more halogen substituents are less stable than those containing only one halogen substituent and, therefore, would decompose more quickly by losing nitrogen. Consequently, Saumitra et al and Kikukawa et al teach away from the Applicants' invention.

Further, if one skilled in the art would have considered using starting materials with more than one halogen substituent, would have expected significantly lower yields, because of increased decomposition. Surprisingly, the process according to the present invention still provides higher yields than Saumitra et al and Kikukawa et al and therefore is novel, over Saumitra et al and Kikukawa et al, and advantageous over the prior art.

(Applicants also would like to clarify that the process according to Applicants' invention provides yields "up to 95%" and not of "at least 95%" as misunderstood by the Examiner).

Regarding new Claim 16, Saumitra et al and Kikukawa et al do not teach or suggest using acrylic acids as starting materials, since in all cases methyl or ethyl acrylate is used.

Regarding Claims 11-14, Claims 11-14 depend from Claim 10, which as discussed is believed to be allowable. Thus, Claims 11-14 are also believed to be allowable.

In view of the above amendments, Applicants submit that the claims are in condition for allowance and the Examiner would be justified in allowing them.

Respectfully submitted,

By

Jill Denesvich
Attorney For Applicants
Reg. No. 52,810

LANXESS Corporation
100 Bayer Road
Pittsburgh, Pennsylvania 15205-9741
(412) 777-2268
FACSIMILE PHONE NUMBER:
(412) 777-2612

Jme

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